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EXAMINER	
REGO, DOMINIC E	
ART UNIT	**PAPER NUMBER**
2618	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/550,561	BEMING ET AL.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20 and 27-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,16-20, 27-38, and 41-44* is/are rejected.

7)☒ Claim(s) *14,15,39 and 40* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to the application filed on February 17, 2010. Claims 1-20 and 27-44 are pending and presented for prosecution.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4,6,7,9,11,27-29,31,32,34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulsley (US Pub. No. 2002/0028691) in view of Hwang (US Pub. No. 2002/0060997).

Regarding claim 1, Moulsley teaches a method in a communication system, comprising the steps of:

sending at a first radio network entity a transmission power control signal (command) to a mobile radio to control a power level at which the mobile radio transmits data units over the communications channel based on a target value *(Paragraph 0068-0069, especially Para. 0069, Moulsley teaches The BS compares the received SIR from the UE with the target once every time-slot (0.666ms). If the received SIR is greater than the target SIR, the BS transmits a TPC ("Transmit Power Control") command "0" to*

the UE via the downlink dedicated control channel. Such a command instructs the transmitter to reduce transmitting power. If the received SIR is below the target, the BS transmits a TPC command "1" to the UE. Such a command instructs the transmitter to increase transmitting power);

detecting at the first radio network entity one or more errors in one or more data units received from the mobile radio and requesting retransmission of one or more data units (Paragraph 0074).

Further Moulsley in Paragraph 0068 teaches if the inner-loop power control fails to counteract adequately the fades in the channel, the BLER will increase and the outer-loop power control will increase the SIR target, so that the average received SIR from the UE is increased, but does not specifically teach providing information associated with the requested retransmission to a second radio network entity for generating a revised target value based on the received information in the second radio network entity.

However, in related art, Hwang teaches providing information associated with the requested retransmission to a second radio network entity for generating a revised target value based on the received information in the second radio network entity *(Paragraphs 0080-0083, especially Para. 0082-0083, Hwang teaches when the retransmission request occurs due to an error and arrives at the transmitting party, the transmitting party reduces the encoding rate in a fixed pattern and increases the power offset and the number of transmission multi-codes, simultaneously. Moreover, when the retransmission is required, the target power value of the signal gradually increases*

*during the time of retransmission, and the link control based on the outer loop power control is achieved as described above. Since the target power value of the signal gradually increases during the time of retransmission, and the link control based on the outer loop power control is achieved, providing information associated with the requested retransmission to a second radio network entity is obvious in this case).*Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Hwang to Moulsley in order to maintain the system performance even with the lowest transmitted power level (See Hwang, Para. 0008).

Regarding claim 2, the combination of Moulsley and Hwang teach all the claimed elements in claim 1. In addition, Moulsley teaches the method in claim 1, wherein the provided information includes information relating to a number of data unit transmission attempts over the communications channel (Paragraphs 0008, 0053,0083, especially paragraph 0083).

Regarding claim 3, the combination of Moulsley and Hwang teach all the claimed elements in claim 1. In addition, Moulsley teaches the method in claim 1, wherein the provided information includes information indicating one or more data units received in which one or more errors was detected or one or more data units was not received (Paragraphs 0008, 0053,0083).

Regarding claim 4, the combination of Moulsley and Hwang teach all the claimed elements in claim 1. In addition, Moulsley teaches the method in claim 3, wherein the provided information includes one or both of cyclic redundancy check

information and quality estimate information for data units transmitted over the communications channel (Paragraphs 0049 and See Hwang, Paragraphs 0080-0083).

Regarding claim 6, the combination of Moulsley and Hwang teach all the claimed elements in claim 1. In addition, Moulsley teaches the method in claim 1, further comprising: increasing the target value if the received information reveals an increase in requested retransmissions, and decreasing the target value if the received information reveals a decrease in requested retransmissions (Paragraphs 0072-0076),

wherein an increased target value causes the first radio network entity to send one or more increase transmission power control signals to the mobile radio, and a decreased target value causes the first radio network entity to send one or more decrease transmission power control signals to the mobile radio (Paragraphs 0068-0076).

Regarding claim 7, the combination of Moulsley and Hwang teach all the claimed elements in claim 1. In addition, Moulsley teaches the method in claim 1, wherein the target value is a signal-to-noise ratio or a signal-to-interference ratio (Paragraphs 0068-0076).

Regarding claim 9, the combination of Moulsley and Hwang teach all the claimed elements in claim 1. In addition, Moulsley teaches the method in claim 1, wherein when the first radio network entity detects a missing or erroneous data unit, the first radio network entity sends a negative acknowledgement to the mobile radio and an error event indicator to the second radio network entity (Para. 0074).

Regarding claim 11, the combination of Moulsley and Hwang teach all the claimed elements in claim 9. In addition, Moulsley teaches the method in claim 9, wherein the second radio network entity determines an actual data unit transmission failure rate for the communication using one or more error event indicators and generates the revised target value to reduce a difference between the actual data unit transmission failure rate and a desired data unit transmission failure rate (Paragraph 0074).

Regarding claim 27, Moulsley teaches a radio network for communicating with a mobile radio communication over a communications channel, comprising:

first means in a first radio network entity for sending a transmission power control signal (command) to the mobile radio to control a power level at which the mobile radio transmits data units over the communications channel based on a target value *(Paragraph 0068-0069, especially Para. 0069, Moulsley teaches The BS compares the received SIR from the UE with the target once every time-slot (0.666ms). If the received SIR is greater than the target SIR, the BS transmits a TPC ("Transmit Power Control") command "0" to the UE via the downlink dedicated control channel. Such a command instructs the transmitter to reduce transmitting power. If the received SIR is below the target, the BS transmits a TPC command "1" to the UE. Such a command instructs the transmitter to increase transmitting power)*;

second means in the first radio network entity for detecting one or more errors in one or more data units received from the mobile radio and requesting retransmission of one or more data units (Paragraph 0074).

Further, Moulsley in Paragraph 0068 teaches if the inner-loop power control fails to counteract adequately the fades in the channel, the BLER will increase and the outer-loop power control will increase the SIR target, so that the average received SIR from the UE is increased, but does not specifically teach third means for providing information associated with the requested retransmission to a second radio network entity; and fourth means in the second radio network entity for generating a revised target value based on the received information.

However, in related art, Hwang teaches third means for providing information associated with the requested retransmission to a second radio network entity; and fourth means in the second radio network entity for generating a revised target value based on the received information *(Paragraphs 0080-0083, especially Para. 0082-0083, Hwang teaches when the retransmission request occurs due to an error and arrives at the transmitting party, the transmitting party reduces the encoding rate in a fixed pattern and increases the power offset and the number of transmission multi-codes, simultaneously. Moreover, when the retransmission is required, the target power value of the signal gradually increases during the time of retransmission, and the link control based on the outer loop power control is achieved as described above. Since the target power value of the signal gradually increases during the time of retransmission, and the link control based on the outer loop power control is achieved, providing information associated with the requested retransmission to a second radio network entity is obvious in this case).*Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Hwang to Moulsley

in order to maintain the system performance even with the lowest transmitted power level (See Hwang, Para. 0008).

Regarding claim 28, the combination of Moulsley and Hwang teach all the claimed elements in claim 27. In addition, Moulsley teaches the radio network in claim 27, wherein the provided information includes information relating to a number of data unit transmission attempts over the communications channel (Paragraphs 0008, 0053,0083, especially paragraph 0083).

Regarding claim 29, the combination of Moulsley and Hwang teach all the claimed elements in claim 27. In addition, Moulsley teaches the radio network in claim 27, wherein the provided information includes one or both of cyclic redundancy check information and quality estimate information for data units transmitted over the communications channel (Paragraphs 0049 and See Hwang, Paragraphs 0080-0083).

Regarding claim 31, the combination of Moulsley and Hwang teach all the claimed elements in claim 27. In addition, Moulsley teaches the radio network in claim 27, the second radio network entity further comprising:

means for increasing the target value if the received information reveals an increase in requested retransmissions (Paragraphs 0072-0076), and

means for decreasing the target value if the received information reveals a decrease in requested retransmissions, wherein an increased target value causes the first means to send one or more increase transmission power control signals to the mobile radio, and a decreased target value causes the first means to send one or more decrease transmission power control signals to the mobile radio (Paragraphs 0068-

0076).

Regarding claim 32, the combination of Moulsley and Hwang teach all the claimed elements in claim 27. In addition, Moulsley teaches the radio network in claim 27, wherein the target value is a signal to noise ratio or a signal to interference ratio (Paragraphs 0068-0076).

Regarding claim 34, the combination of Moulsley and Hwang teach all the claimed elements in claim 27. In addition, Moulsley teaches the radio network in claim 27, wherein when the second means detects a missing or erroneous data unit, the first radio network entity includes means for sending a negative acknowledgement to the mobile radio and an error event indicator to the second radio network entity (Paragraph 0074).

Regarding claim 36, the combination of Moulsley and Hwang teach all the claimed elements in claim 27. In addition, Moulsley teaches the radio network in claim 34, wherein the second radio network entity includes means for determining an actual data unit transmission failure rate for the communication using one or more error event indicators and for generating the revised target value to reduce a difference between the actual data unit transmission failure rate and a desired data unit transmission failure rate (Paragraph 0074).

4. Claims 5,8,10,12,13,18,30,33,35,37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulsley (US Pub. No. 2002/0028691) in view of Hwang (US Pub. No. 2002/0060997) and further in view of Admitted prior art.

Regarding claim 5, the combination of Moulsley and Hwang do not specifically teach the method in claim 4, wherein the communication is a diversity handover communication including two or more handover links between two or more base stations and the mobile radio, the method further comprising: the second radio network entity performing diversity combining of one or more data units received over the two or more handover links based on one or both of the cyclic redundancy check information and the quality estimate information.

However, in related art, admitted prior art teaches the method in claim 4, wherein the communication is a diversity handover communication including two or more handover links between two or more base stations and the mobile radio, the method further comprising: the second radio network entity performing diversity combining of one or more data units received over the two or more handover links based on one or both of the cyclic redundancy check information and the quality estimate information (Paragraphs 0005-0007, especially Para. 0005). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to measure the relative quality between two or more copies of the same data unit.

Regarding claim 8, the combination of Moulsley and Hwang do not specifically teach the method in claim 1, wherein the detecting includes detecting signal quality information and cyclic redundancy check information for data units received over the communications channel.

However, in related art, admitted prior art teaches the method in claim 1, wherein the detecting includes detecting signal quality information and cyclic redundancy check information for data units received over the communications channel (Paragraph 0005). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to determine the correctness/incorrectness of data.

Regarding claim 10, the combination of Moulsley and Hwang do not specifically teach the method in claim 9, wherein the second radio network entity ensures that error event indicators received from plural first entities for the same data unit are only interpreted as one error event indicator.

However, in related art, admitted prior art teaches the method in claim 9, wherein the second radio network entity ensures that error event indicators received from plural first entities for the same data unit are only interpreted as one error event indicator *(Paragraph 0005, admitted prior art teaches FIG. 1 which shows a radio network 10 and a soft handover where two different radio base stations 20a and 20b receive uplink data units from the same transmitting mobile terminal 12. Two decoders 22a and 22b in the two base stations 20a and 20b decode the received data units. The decoded data units are delivered to a diversity combining unit 16 located in the radio network controller 14 to choose or generate from the two sets of data units a single stream of data units. The diversity combining is based on channel quality measurement data provided by the base stations 20a and 20b. In wideband CDMA (WCDMA), the measurement data includes cyclic redundancy checksum indicators (CRCIs) and quality estimates (QEs)).*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to determine the correctness/incorrectness of data.

Regarding claim 12, the combination of Moulsley and Hwang do not specifically teach the method in claim 1, wherein when the first radio network entity sends a bit map associated with the communication indicating a number of decoding failures for one or more received data units to the second radio network entity.

However, in related art, admitted prior art teaches the method in claim 1, wherein when the first radio network entity sends a bit map (CRCIs) associated with the communication indicating a number of decoding failures for one or more received data units to the second radio network entity (Paragraphs 0005-0006). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to determine the correctness/incorrectness of data.

Regarding claim 13, the combination of Moulsley, Hwang, and admitted prior art teach all the claimed elements in claim 12. In addition, admitted prior art teaches the method in claim 12, wherein the second radio network entity combines bit map (CRCIs) information received from plural first entities for the same data unit (Paragraphs 0005-0006).

Regarding claim 18, the combination of Moulsley and Hwang do not specifically teach the method in claim 1, wherein the first and second radio network entities are located in a same radio network node.

However, in related art, admitted prior art teaches the method in claim 1, wherein the first and second radio network entities are located in a same radio network node *(See figure 1, Radio base stations 20a and 20b which is first network entity and RNC 14 which is a second radio network entity located in a same radio network node).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to transmits data effectively.

Regarding claim 30, the combination of Moulsley and Hwang do not specifically teach the radio network in claim 29, wherein the communication is a diversity handover communication including two or more handover links between two or more base stations and the mobile radio, further comprising: means in the second radio network entity for performing diversity combining one or more data units received over the two or more handover links based on one or both of the cyclic redundancy check information and the quality estimate information.

However, in related art, admitted prior art teaches the radio network in claim 29, wherein the communication is a diversity handover communication including two or more handover links between two or more base stations and the mobile radio, further comprising: means in the second radio network entity for performing diversity combining one or more data units received over the two or more handover links based on one or both of the cyclic redundancy check information and the quality estimate information (Paragraphs 0005-0007, especially Para. 0005). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above

teaching of admitted prior art to Moulsley and Hwang in order to measure the relative quality between two or more copies of the same data unit.

Regarding claim 33, the combination of Moulsley and Hwang do not specifically teach the radio network in claim 27, wherein the detecting includes detecting signal quality information and cyclic redundancy check information for data units received over the communications channel.

However, in related art, admitted prior art teaches the radio network in claim 27, wherein the detecting includes detecting signal quality information and cyclic redundancy check information for data units received over the communications channel (Paragraph 0005). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to determine the correctness/incorrectness of data.

Regarding claim 35, the combination of Moulsley and Hwang do not specifically teach the radio network in claim 34, wherein the second radio network entity includes means for ensuring that error event indicators received from plural first entities for the same data unit are only interpreted as one error event indicator.

However, in related art, admitted prior art teaches the radio network in claim 34, wherein the second radio network entity includes means for ensuring that error event indicators received from plural first entities for the same data unit are only interpreted as one error event indicator *(Paragraph 0005, admitted prior art teaches FIG. 1 which shows a radio network 10 and a soft handover where two different radio base stations 20a and 20b receive uplink data units from the same transmitting mobile terminal 12.*

Two decoders 22a and 22b in the two base stations 20a and 20b decode the received data units. The decoded data units are delivered to a diversity combining unit 16 located in the radio network controller 14 to choose or generate from the two sets of data units a single stream of data units. The diversity combining is based on channel quality measurement data provided by the base stations 20a and 20b. In wideband CDMA (WCDMA), the measurement data includes cyclic redundancy checksum indicators (CRCIs) and quality estimates (QEs)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to determine the correctness/incorrectness of data.

Regarding claim 37, the combination of Moulsley and Hwang do not specifically teach the radio network in claim 27, wherein when the first radio network entity includes means for sending a bit map associated with the communication indicating a number of decoding failures for one or more received data units to the second radio network entity.

However, in related art, admitted prior art teaches the radio network in claim 27, wherein when the first radio network entity includes means for sending a bit map (CRCs) associated with the communication indicating a number of decoding failures for one or more received data units to the second radio network entity (Paragraphs 0005-0006). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of admitted prior art to Moulsley and Hwang in order to determine the correctness/incorrectness of data.

Regarding claim 38, the combination of Moulsley, Hwang, and admitted prior art

teach all the claimed elements in claim 27. In addition, admitted prior art teaches the radio network in claim 37, wherein the second radio network entity includes means for combining bit map information received from plural first entities for the same data unit (Paragraphs 0005-0006).

5. Claims 16 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulsley (US Pub. No. 2002/0028691) in view of Hwang (US Pub. No. 2002/0060997) and further in view of Zeira et al. (US Pub. No. 2008/0267123).

Regarding claim 16, the combination of Moulsley and Hwang fail to teach the method in claim 1, wherein the provided information includes statistical information provided by the mobile radio.

However, in related art, Zeira teaches the method in claim 1, wherein the provided information includes statistical information provided by the mobile radio (Paragraph 0064). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Zeira to Moulsley and Hwang in order to effectively transmit data and improve efficiency in the communication system.

Regarding claim 41, the combination of Moulsley and Hwang fail to teach the radio network in claim 27, wherein the provided information includes statistical information provided by the mobile radio.

However, in related art, Zeira teaches the radio network in claim 27, wherein the provided information includes statistical information provided by the mobile radio (Paragraph 0064). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Zeira to Moulsley and Hwang in order to effectively transmit data and improve efficiency in the communication system.

6. Claims 17 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulsley (US Pub. No. 2002/0028691) in view of Hwang (US Pub. No. 2002/0060997) and further in view of Vanttinen et al. (US Pub. No. 2002/0065086).

Regarding claim 17, the combination of Moulsley and Hwang do not specifically teach the method in claim 1, wherein the first and second radio network entities are located in different radio network nodes.

However, in related art, Vanttinen teaches the method in claim 1, wherein the first and second radio network entities are located in different radio network nodes (See Fig. 1B, base station 100 (first entity) and RNC 102 (second entity) are located in different radio nodes; Also See Para. 0046). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Vanttinen to Moulsley and Hwang in order to communicate with each other and wirelessly transmitting and receiving data to/from wireless terminal.

Regarding claim 42, the combination of Moulsley and Hwang do not specifically teach the radio network in claim 27, wherein the first and second radio network entities are located in a same radio network node.

However, in related art, Vanttinen teaches the radio network in claim 27, wherein the first and second radio network entities are located in a same radio network node (See Fig. 1B, base station 100 (first entity) and RNC 102 (second entity) are located in different radio nodes; Also See Para. 0044). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Vanttinen to Moulsley and Hwang in order to communicate with each other and wirelessly transmitting and receiving data to/from wireless terminal.

7. Claims 19 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulsley (US Pub. No. 2002/0028691) in view of Hwang (US Pub. No. 2002/0060997) and further in view of Malladi et al. (US Patent No. 7,352,722).

Regarding claim 19, the combination of Moulsley and Hwang teach all the claimed elements in claim 18. In addition, Hwang teaches the method in claim 18, wherein the second radio network entity generates the revised target based on the received information (Paragraphs 0082-0083), but does not specifically teach a new data indicator (NDI) communicated by the mobile radio indicating whether a data unit is a new data unit or a retransmitted data unit.

However, in related art, Malladi teaches a new data indicator (NDI) communicated by the mobile radio indicating whether a data unit is a new data unit or a retransmitted data unit (Col 5, lines 10-30, especially, Col 5, lines 28-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Malladi to Moulsley and Hwang in order to mitigate the effects of link imbalance for the uplink between a terminal and multiple base stations.

Regarding claim 43, the combination of Moulsley and Hwang teach all the claimed elements in claim 42. In addition, Hwang teaches the radio network in claim 42, wherein the second radio network entity includes means for generating the revised target based on the received information (Paragraphs 0082-0083), but does not specifically teach a new data indicator (NDI) communicated by the mobile radio indicating whether a data unit is a new data unit or a retransmitted data unit.

However, in related art, Malladi teaches a new data indicator (NDI) communicated by the mobile radio indicating whether a data unit is a new data unit or a retransmitted data unit (Col 5, lines 10-30, especially, Col 5, lines 28-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Malladi to Moulsley and Hwang in order to mitigate the effects of link imbalance for the uplink between a terminal and multiple base stations.

8. Claims 20 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulsley (US Pub. No. 2002/0028691) in view of Hwang (US Pub. No.

2002/0060997) in view of Malladi et al. (US Patent No. 7,352,722) and further in view of Love et al. (US Pub. No. 2004/0116143).

Regarding claim 20, the combination of Moulsley, Hwang, and Malladi teach all the claimed elements in claim 19. In addition, Malladi teaches the method in claim 19, wherein the second radio network node is a base station (See figure 1), the mobile radio communication is a soft handover communication involving first and second base stations (Col 1, lines 24-40), but does not specifically teach the NDI indicates a decoding result of the data unit taking into account a data unit decoding at the first base station and a data unit decoding at the second base station.

However, in related art, Love teaches the NDI indicates a decoding result of the data unit taking into account a data unit decoding at the first base station and a data unit decoding at the second base station (Paragraph 0063). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Love to Moulsley, Hwang, and Malladi in order to achieve higher throughput and lower latency.

Regarding claim 44, the combination of Moulsley, Hwang, and Malladi teach all the claimed elements in claim 43. In addition, Malladi teaches the radio network in claim 43, wherein the first 104a and second radio network entities 102 are located in a base station (See figure 1), the mobile radio communication is a soft handover communication involving first and second base stations (Col 1, lines 24-40), but does not specifically teach the NDI indicates a decoding result of the data unit taking into

account a data unit decoding at the first base station and a data unit decoding at the second base station.

However, in related art, Love teaches the NDI indicates a decoding result of the data unit taking into account a data unit decoding at the first base station and a data unit decoding at the second base station (Paragraph 0063). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Love to Moulsley, Hwang, and Malladi in order to achieve higher throughput and lower latency.

Allowable Subject Matter

9. Claims 14,15,39, and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 14, the prior art of record fails to teach the method in claim 1, wherein when the first radio network entity processes one or more bit maps associated with the communication indicating a number of decoding failures for one or more received data units and sends processed information resulting from the processing to the second radio network entity, wherein the processed information is less data than the one or more bit maps.

Regarding claim 39, the prior art of record fails to teach the radio network in claim 27, wherein when the first radio network entity includes means for processing one

or more bit maps associated with the communication indicating a number of decoding failures for one or more received data units and sending processed information resulting from the processing to the second radio network entity, wherein the processed information is less data than the one or more bit maps.

EXAMINER'S NOTE: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) In re Fulton, 391 F.3d 1195, 1qw201,73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

Response to Arguments

10. Applicant's arguments filed 02/17/2010 have been fully considered but they are not persuasive. Regarding claim 1, in the Remarks Applicant stated “The Applicants' invention is directed to solving a problem relating to retransmission schemes. As noted in Paragraph [0009] of the application, in configurations in which ARQ-based error-correction schemes are provided in radio base stations (i.e., a "first radio network entity"), erroneous data units are discarded. As noted in that same paragraph, "an outer power control loop in [a] radio network controller [i.e., a "second radio network entity"] [does not] know about [such] erroneous.., data units;" thus, an outer loop power controller located in a radio network controller (i.e., a "second radio network entity"), rather than the radio base station (i.e., a "first radio network entity"), can mistakenly assume that the radio communications channel is better than it really is, resulting in continued transmission errors, etc.. That is the situation according to the teachings of Moulsley, wherein it is taught that "[t]he outer-loop power control operates within the base station." (See Paragraph 0066; emphasis added). In contrast, the Applicants' invention is directed to systems in which the outer loop power control is performed in a second radio network entity (e.g., a radio network controller); the "first radio network entity" in claim 1 corresponding to a radio base station. In such systems, to overcome the problem noted above, the Applicants' invention "[provides] information associated with.., requested retransmission[s] [by the first radio network entity] to a second radio network entity for generating a revised [power level] target value." As the Examiner acknowledges, Moulsley does not teach that functionality”. Based on above statement,

the Examiner is advised to Applicant to put the above limitations "the outer loop power control is performed in a second radio network entity (e.g., a radio network controller); the "first radio network entity" in claim 1 corresponding to a radio base station" to independent claim 1 in order to facilitate prosecution thoroughly and more clearly because those limitations are not found in claim 1, but some of the parts can be found in dependent claims 17 and 42.

Further, Remarks made on page 10 and 12, Applicant argues that the combination of Moulsley and Hwang fail to disclose the limitations in claim 1. The Examiner respectfully disagrees with the Applicants. Moulsley, paragraph 0069, teaches the BS compares the received SIR from the UE with the target once every time-slot (0.666ms). If the received SIR is greater than the target SIR, the BS transmits a TPC ("Transmit Power Control") command "0" to the UE via the downlink dedicated control channel. Such a command instructs the transmitter to reduce transmitting power. If the received SIR is below the target, the BS transmits a TPC command "1" to the UE. Such a command instructs the transmitter to increase transmitting power which cover the limitations "sending at a first radio network entity a transmission power control signal (command) to a mobile radio to control a power level at which the mobile radio transmits data units over the communications channel based on a target value". The limitations "detecting at the first radio network entity one or more errors in one or more data units received from the mobile radio and requesting retransmission of one or more data units", paragraph 0074, Moulsley teaches now assuming that reception of first transmission units has failed, the receiver sends such an indication to the transmitter,

which may be in the form of a negative acknowledgement command (NACK) or the lack of a positive acknowledgement command (ACK) depending on the form of ARQ scheme being used. Consider the example of a scheme where the received first information units are discarded if received in error. The receiver also now raises the target SIR to a value B which is higher than the target SIR value A. This is denoted in FIG. 5 at 151. The SIR value of received transmissions is below the target SIR B which causes the receiver to send power `up` commands to the transmitter, which commands are sent until the new target SIR B is reached. This is shown in FIG. 5 at 152. The higher target SIR B is maintained until the retransmission successfully communicates the failed data to the receiver. The limitations "providing information associated with the requested retransmission to a second radio network entity for generating a revised target value based on the received information in the second radio network entity", Hwang, paragraph [0045] teaches FIG. 2 is a view showing the outer loop power control. Paragraph [0049] discloses the down link **outer loop power control based on a network increases signaling load between the mobile station and the radio network controller (RNC)** and results in the time delay. Accordingly, the outer loop power control based on the mobile station is used in the WCDMA. Paragraph [0082] teaches when the retransmission request occurs due to an error and arrives at the transmitting party, the transmitting party reduces the encoding rate in a fixed pattern and increases the power offset and the number of transmission multi-codes, simultaneously. Further, paragraph [0083], teaches when the retransmission is required, the target power value of the signal gradually increases during the time of

retransmission, and the link control based on the outer loop power control is achieved. According to Hwang in Fig 2, it's clearly point out that a second radio network entity (Fig 2, RNC) separate from the first network entity (Fig. 2, BS). In paragraphs [0049] and [0082-0083], Hwang teaches once the base station (first network entity) detect errors in data received from the MS (See fig 2) and requesting retransmission, providing information associated with the retransmission to a second radio network entity (Fig. 2, RNC) for generating a revised (change or adjust or increasing) target value (paragraph 0083, teaches when the retransmission is required, the target power value of the signal gradually increases during the time of retransmission, and the link control based on the outer loop power control is achieved) based on the received information in the second radio network entity (RNC).

Therefore, the Examiner respectfully submits that the rejection of claim 1-20 and 27-44 under 35 U.S.C. 103(a) is proper.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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